

Autisme and Epileptiform

By Stefanny Christina

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Without seizure complaint or formal diagnosis of epilepsy, 60-80% of individuals with autism spectrum disorder (ASD) possess brain waves that are similar to those with epilepsy/seizures called ***epileptiform*** ^(1,2,3). Because of the absence of typical behaviour characteristics of a seizure (often seen as uncontrollable muscle spasm or blankly staring into space), epileptiform often goes unnoticed by the parents.

Aditi Shankardass, brain researcher and expert from Harvard Medical School, noticed the lack of brain assessments in diagnosing autism. Brain assessments are fundamental in generating accurate diagnosis, involving the process of differentiating between autism and other brain abnormalities.

In her talk, Aditi told a story of Justin Sinegar, who had received a diagnosis of autism since an early age. Doctor even told Justin's parents that Justin may never communicate properly. However, after going through brain assessments, epileptiform was found in his brain instead of autism markers. Justin started to take anti-convulsive medication and his verbal skills increased from 2-3 words to 300 words in 60 days.

Epileptiform in the brain can be assessed by neurologists who are skilled in looking at the "morphology of brain waves", or **Electroencephalogram (EEG)**. However, looking at the EEG data alone is not enough as it has to be processed using statistical analysis in order to give comprehensive information about the brain condition thoroughly, including its impact to cognitive skills, emotional/temperament, and behaviors. This process involves professional clinicians who have extensive experience in the field.

While Justin's story can be an example of how important the accuracy of a diagnosis is, it should be emphasised that every case of autism is unique. There are children who have accurate diagnosis of autism and epileptiform activity in their brains. In some cases, **regression** may be found, when the child has developed certain skills (for example: social or emotional) in an early age but lost those skills, typically in 18-24 months of age ⁽⁴⁾. Assessments and accurate diagnosis are also fundamental in choosing the right steps and therapies needed by the child, because intervening on brain abnormalities will help enhance the process of a child's development ⁽⁵⁾.

Comprehensive assessment of EEG is still rare in Indonesia. This is why **Brain Optimax** is collaborating with neurologists and experts in the USA to provide services of brain assessments and training. The EEG data will be collected in Brain Optimax, and the data will be sent to be analysed by experts and neurologists, who will give comprehensive reports about the result and their recommendation on suitable training.

Tentang Brain Optimax

Brain Optimax is a training and psychological services centre that focuses on the optimization of the brain. It is suitable for all ages and for conditions such as ASD, speech delay, ADD/ADHD, concentration issues, emotion regulation (anxiety, ODD, OCD), stress management, organizing, stroke patients, and others.

References:

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